

**UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA**

<div>EZ Gard Industries, Inc.,</div> <div>Plaintiff,</div> <div>vs.</div> <div>XO Athletic Co. and Paul J. Andre,</div> <div>Defendants.</div>	<div>Civil No. 07-cv-04769 (JMR/FLN)</div> <div><b>JOINT CLAIM CONSTRUCTION STATEMENT</b></div>
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**JOINT CLAIM CONSTRUCTION STATEMENT**

Pursuant to the Court's Pretrial Scheduling Order of February 12, 2008, Shock Doctor and XO hereby submit the following Joint Claim Construction Statement which (1) notifies the Court as to whether they request that the Court schedule a Claim Construction hearing to determine claim interpretation, (2) identifies the construction of those claim terms, phrases, or clauses on which the parties agree, (3) provides each party's proposed construction of each disputed claim term, phrase, or clause together with an identification of all intrinsic and extrinsic evidence supporting that proposed construction, and (4) identifies all witnesses that may testify in support of the proposed constructions.

The parties do request a Claim Construction hearing to determine claim interpretation, but are currently contemplating a stipulated motion to stay the litigation pending the outcome of XO's appeal of the Court's April 23, 2008 preliminary injunction order. The parties are in agreement that claim construction briefing should follow the deadlines and page limits prescribed by Local Rule 7.1(b) relating to dispositive motions.

The Proposed Claim Constructions stated below are based, at least in part, on the parties' prior exchanges regarding prior art and infringement. On July 29, 2008 counsel for XO notified counsel for Shock Doctor that XO was working on a second redesign of its mouthguard product. The details of this second redesign have not been provided to Shock Doctor as of the submission of this Joint Claim Construction Statement. Because XO's second redesign was not the subject of the parties' prior exchanges regarding infringement, and because XO's second redesign of its mouthguard will require an additional infringement evaluation by Shock Doctor, the parties agree that supplementation of Infringement Claim Charts and proposed claim constructions may be required after a reasonable opportunity to investigate XO's second redesign.

Claim Term	Shock Doctor's Constructions and Evidence	XO's Constructions and Evidence
flexible and tough mouthguard portion	<p align="center"><b><u>Joint Construction</u></b></p> <p align="center">portion molded in the shape of a mouthguard that is firm in texture and capable of being bent repeatedly</p>	
first material of a softenable thermoplastic	<p align="center"><b><u>Joint Construction</u></b></p> <p align="center">first material that is a thermoplastic that softens under boiling water and hardens when cooled</p>	
upward inner lingual and outer labial walls	<p align="center"><b><u>Joint Construction</u></b></p> <p align="center">an upward wall near the tongue and an upward wall near the lips forming a channel for receiving the upper jaw and teeth</p>	
having posterior and anterior portions	<p align="center"><b><u>Joint Construction</u></b></p> <p align="center">having a portion near the molars and bicuspid and a portion near the incisors and canines</p>	
shock absorbing and attenuating framework	<p align="center"><b><u>Joint Construction</u></b></p> <p align="center">a skeletal structure supporting the mouthguard portion that is of sufficient hardness to receive and lessen the force from an impact</p>	
second material of a nonsoftening, resilient, low compression elastomer	<p><b><u>Shock Doctor's Proposed Construction</u></b></p> <p>second material that is a resilient elastomer that does not soften under boiling water and is more resistant to compression than the first material</p> <p><b><u>Intrinsic Evidence</u></b></p>	<p><b><u>XO's Proposed Construction</u></b></p> <p>second material is an elastomer that will not soften in boiling water, will not permanently deform, and will not significantly reduce in size when pressure is applied as compared to other elastomers</p>

	<p><b>Source: U.S. Patent No. 5,339,832</b></p> <p>“Thermoplastic Mouthguard With Integral Shock Absorbing Framework” (Title)</p> <p>“A shock absorbing and attenuating nonsoftening, resilient, low compression, elastomer framework is embedded in the mouthguard portion to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (Abstract)</p> <p>“A shock absorbing and attenuating nonsoftening, resilient, low compression, elastomer framework is embedded in the mouthguard portion to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (1:68-2:5)</p> <p>“A principal object and advantage of the present invention is that the mouthguard is of a composite construction permitting the formation of a customized thermoplastic mouthguard portion protecting the teeth, jaws and gums with an internal, shock absorbing, nonsoftening, resilient, low compression, elastomeric framework therein to further absorb, attenuate and dissipate shock forces exerted on the mouthguard.” (2:6-14)</p> <p>“Another object and advantage of the present invention is that the composite material with the elastomeric framework within the thermoplastic mouthguard portion will resist wear and break down of the mouthguard otherwise associated with</p>	<p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: Specification</b></p> <p>Column 1, line 68 – column 2, line 57</p> <p>Column 4, lines 46-61</p> <p>Column 5, lines 19-23</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster Dictionary</b></p> <p>Resilient – capable of withstanding shock w/out permanent deformation or rupture</p> <p>Compression – the act, process, or result of compressing; the state of being compressed</p> <p>Compress – to press or squeeze together; to reduce in size, quantity, or volume as if by squeezing</p> <p><b>Source: <a href="http://www.techweb.com/encyclopedia">www.techweb.com/encyclopedia</a></b></p> <p>Elastomer – a soft, compliant, rubber-like material</p> <p><b>Source: Britannica Online Encyclopedia</b></p> <p>Elastomer – any rubbery material composed of</p>
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	<p>EVA mouthguards.” (2:29-33)</p> <p>“Another object and advantage of the present invention is that the elastomeric framework, which is not softened under boiling water, will permit the appropriate power positioning of the lower jaw despite the softening of the thermoplastic mouthguard portion, thereby assuring proper fitting of the composite mouthguard.” (2:34-39)</p> <p>“The elastomeric framework 78 suitably is made of an elastomer, which unlike copolymers of ethylene and vinyl acetate, exhibits a high resilience, low compression, shape maintenance and shock absorption, attenuation and dissipation. Virtually all rubbers that exhibit these physical characteristics may be utilized for the elastomeric framework 78, including vulcanized rubber. Applicant has found a thermoplastic rubber marketed under the trademark KRATON.RTM. works well, which is marketed by GLS Plastics of 740B Industrial Drive, Cary, Illinois 60013. This thermoplastic rubber is unique in that it is injection moldable, FDA approved and readily adheres with copolymers of ethylene and vinyl acetate. Furthermore, the thermoplastic rubber has a melting or softening point significantly higher than that of EVA.” (4:46-61)</p> <p>“The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof; therefore, the illustrated embodiment should be considered in all respects as illustrative and not restrictive, reference being made</p>	<p>long, chainlike molecules that are capable of recovering their original shape after being stretched to great extents</p> <p><b>Source: Handbook of Plastics, Elastomers, and Composites</b></p> <p>Ch. 1 – The Nature of Plastics and Elastomers</p> <ul style="list-style-type: none"> <li>• Elastomers (pg. 1-106)</li> </ul> <p><b>Source: Percipient Witness – Jim Landi</b></p> <p>Testifying as to his understanding, as one of ordinary skill in the art, of the technical terms used in the patent</p>
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	<p>to the appended claims rather than to the foregoing description to indicate the scope of the invention.” (6:11:17)</p> <p>“a first material of a softenable thermoplastic” (Claim 1)</p> <p><b>Source: Prosecution History</b></p> <p>“a second material of a <u>nonsoftening, resilient, low compression elastomer</u>” (11/1/93 Amendment at SD0000132)</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Academic Press Dictionary of Science and Technology (1992)</b></p> <p>Elastomer: any of numerous natural or synthetic materials having elastic properties similar to rubber. (SD0000013)</p> <p><b>Source: The Concise Oxford Dictionary of Current English (1990)</b></p> <p>Elastomer: a natural or synthetic rubber or rubber-like plastic. (SD0000022)</p> <p><b>Source: McGraw-Hill Dictionary of Scientific and Technical Terms (1989)</b></p> <p>Elastomer: A polymeric material, such as a synthetic rubber or plastic, which at room</p>	
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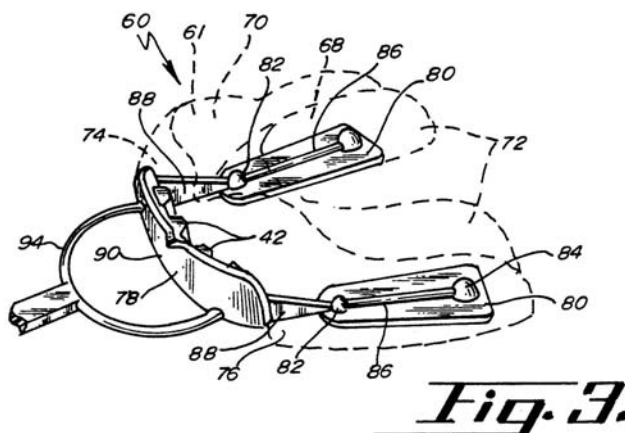
	<p>temperature can be stretched under low stress to at least twice its original length and, upon immediate release of the stress, will return with force to its approximate original length. (SD0000033)</p> <p><b>Source: The Random House Dictionary of the English Language (1987)</b></p> <p>Elastomer: an elastic substance occurring naturally, as natural rubber, or produced synthetically, as butyl rubber or neoprene. (SD0000043)</p> <p><b>Source: Webster's College Dictionary (1991)</b></p> <p>Elastomer: an elastic substance occurring naturally, as a natural rubber, or produced synthetically, as butyl rubber. (SD0000057)</p>	
embedded in the mouthguard posterior portions of the mouthguard base	<p><b><u>Shock Doctor's Proposed Construction</u></b></p> <p>integrated with the posterior portions of the mouthguard base due to irregularities in the surfaces of the framework</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: U.S. Patent No. 5,339,832</b></p> <p>"Thermoplastic Mouthguard With Integral Shock Absorbing Framework" (Title)</p> <p>"A shock absorbing and attenuating nonsoftening, resilient, low compression, elastomer framework is</p>	<p><b><u>XO Proposed Construction</u></b></p> <p>the framework is substantially surrounded by the posterior portion of the mouthguard base</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: Specification</b></p> <p>Figs. 2-6</p> <p>Column 1, line 65 – column 2, line 58</p> <p>Column 4, lines 10-14</p>

	<p>embedded in the mouthguard portion to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (Abstract)</p> <p>“A shock absorbing and attenuating nonsoftening, resilient, low compression, elastomer framework is embedded in the mouthguard portion to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (1:68-2:5)</p> <p>“A principal object and advantage of the present invention is that the mouthguard is of a composite construction permitting the formation of a customized thermoplastic mouthguard portion protecting the teeth, jaws and gums with an internal, shock absorbing, nonsoftening, resilient, low compression, elastomeric framework therein to further absorb, attenuate and dissipate shock forces exerted on the mouthguard.” (2:6-14)</p> <p>“Another object of the present invention is that the composite material with the elastomeric framework within the thermoplastic mouthguard portion will resist wear and break down of the mouthguard otherwise associated with EVA mouthguards.” (2:29-33)</p> <p>“Another object and advantage of the present invention is that occlusal thermoplastic posterior pads may be included in the mouthguard portion wherein the elastomeric framework may be embedded to provide the absorption, attenuation and shock dissipation qualities as well as permitting</p>	<p>Column 4, line 62 – column 5, line 3</p> <p>Column 5, lines 18-24</p> <p>Column 5, lines 53-68</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster Dictionary</b></p> <p>Embed – to enclose closely in or as if in a matrix</p> <p>In – used as a function word to indicate inclusion, location, or position within limits</p> <p><b>Source: <a href="http://www.thefreedictionary.com">www.thefreedictionary.com</a></b></p> <p>Embedded – enclosed firmly in a surrounding mass</p> <p><b>Source: Prior Art References</b></p> <p>2,630,117 (Coleman)</p> <ul style="list-style-type: none"> <li>• Column 3, lines 16-22</li> <li>• Element 13 in Figures 1 and 5</li> </ul> <p>2,678,043 (Stark)</p> <ul style="list-style-type: none"> <li>• Column 2, line 56 to column 3, line 1</li> <li>• Element 28 in Figures 1-5</li> </ul> <p>2,702,032 (Freedland)</p> <ul style="list-style-type: none"> <li>• Column 1, line 81 to column 2, line 1</li> </ul>
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the mouthguard and lower jaw to be formed and placed in the power position moving the condyle downwardly and forwardly away from the nerves and arteries within the fossae or socket to increase body muscular strength, greater endurance and improved performance by the mouthguard user.” (2:47-58)

“Mouthguard 60 is comprised of a thermoplastic mouthguard portion 61, which is generally horse shoe or U-shaped, with the embedded or substantially internal elastomeric framework 78 forming posterior cushion pads 80 and an anterior impact brace 90.” (4:11-16)



“Consequently, the elastomeric framework 78 is initially molded or formed after which the thermoplastic mouthguard portion 61 may be injection molded therearound.” (4:62-65)

“The elastomeric framework 78 has posterior

3,223,085 (Gores et al.)

- Column 2, lines 68-70 and Fig. 6

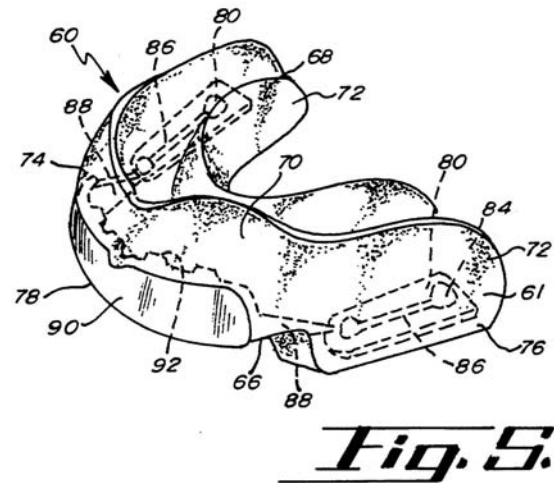
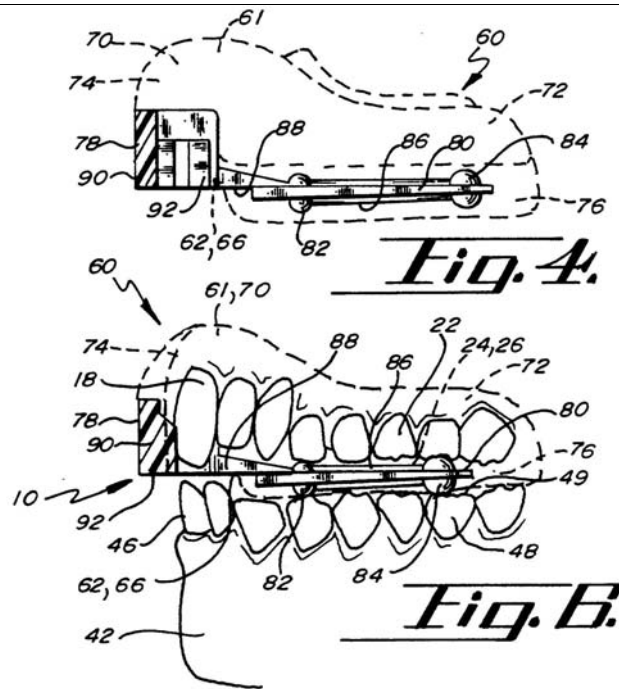
3,943,924 (Kallestad et al.)

- Column 2, lines 63-68

**Source: Percipient Witness – Jim Landi**

Testifying as to his understanding, as one of ordinary skill in the art, of the technical terms used in the patent

	<p>cushion pads 80 which suitably lay within the posterior portions 72 of the U-shaped base 62. Alternatively, the posterior cushion pads may be embedded within the occlusal posterior pads 76 or between the pads 76 and the U-shaped anterior base portions 62.” (4:66-5:3)</p> <p>“FIGS. 4 and 6 show double phantom lines without cross sectioning in the anterior portion 74 of the thermoplastic mouthguard portion 61 to illustrate that the copolymer mouthguard portion 61 at least partially surrounds the anterior cushion pads 92 to further embed the framework 78 in the anterior portion 74 of the mouthguard portion 61.” (5:42-48)</p>	
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	<p>“The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof; therefore, the illustrated embodiment should be considered in all respects as illustrative and not restrictive, reference being made to the appended claims rather than to the foregoing description to indicate the scope of the invention.” (6:11:17)</p> <p><b>Source: Prosecution History</b></p> <p>“Composite Mouthguard” (5/24/93 Application at SD000088)</p> <p>“The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The examiner encourages the applicant to submit a title that will be of benefit to the Office’s objective of converting to an electronic search and filing system.” (8/30/93 Office Action at SD0000122)</p> <p>“a shock absorbing and attenuating framework made of a second material <u>of a nonsoftening, resilient, low compression elastomer which is embedded in the mouthguard posterior portions of the mouthguard base</u>” (11/1/93 Amendment at SD0000132)</p> <p>“Please amend the title to read --Athletic Protective Composite Mouthguard--” (11/1/93 Amendment at SD0000140)</p>	
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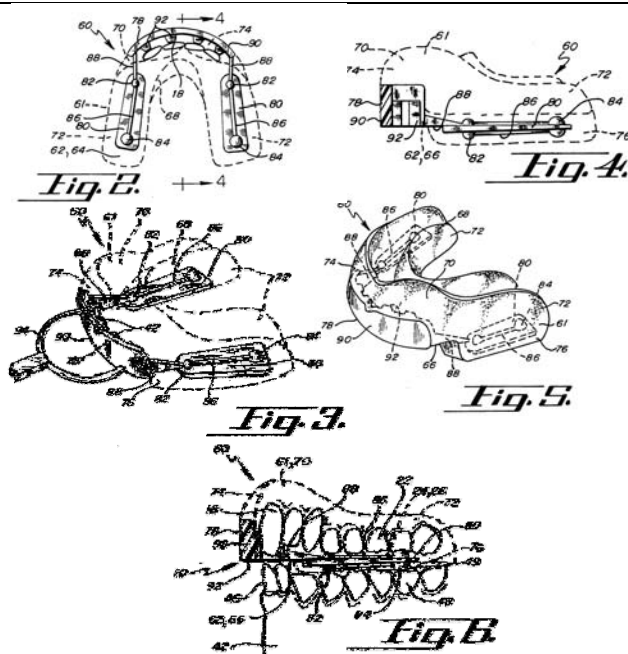
	<p>“The title of the invention has been amended as suggested.” (11/1/93 Amendment at SD0000141)</p> <p>“The specification supports this interpretation of FIGS. 4 and 6. On page 3, lines 26 and 27, “the elastomer framework is embedded in the mouthguard portion.” On page 9, the third full paragraph, the “framework 78 is initially molded or formed afterwhich the thermoplastic mouthguard portion 61 may be injection molded therearound.” (11/1/93 Amendment at SD0000142)</p> <p>“The copolymer resin of the mouthguard portion 61 simply need not completely surround the anterior cushion pads 92. What is important is that the face of the cushion pads 92 must be able to come into complete contact with the anterior teeth 18. Whether the sides of the anterior cushion pads 92 are completely or only partially covered by copolymer resin or mouthguard portion 61 is simply irrelevant. Original FIG. 6 and amended FIG. 4 clearly show that the backside of the anterior impact brace 90 is covered with copolymer resin or mouthguard portion 61 and ant least portions of the sides of anterior cushion pads 92 are also covered by the resin or mouthguard portion 61. This arrangement embeds the framework 78 into the mouthguard portion 61 as described in the specification.” (11/1/93 Amendment at SD0000143)</p> <p>“The title of the invention is not descriptive. A new title is required that is clearly indicative of the</p>	
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	<p>invention to which the claims are directed.” (12/27/93 Office Action at SD0000154)</p> <p>“However, there was some confusion in understanding the December 27 Office Action. The title was objected to as in the earlier Office Action of August 30, 1993. Applicants by amendment dated October 27, 1993, on page 10 amended the title to read – Athletic Protective Composite Mouthguard--. Applicants believe that this amended title is more than clearly indicative of the invention and believes it was merely a missed oversight. If this title is unacceptable, the Examiner is earnestly solicited to telephone the undersigned to select a ‘more suitable’ title.” (1/18/94 Amendment at SD0000168)</p> <p>“Informed applicant that examiner will change title” (2/17/94 Interview Summary at SD0000171)</p> <p>“The applicants’ mouthguard defines an unanticipated and non-obvious advancement over the prior art of record by integrating a shock absorbing framework into the thermoplastic base.” (2/22/94 Notice of Allowance at SD0000173)</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster’s Collegiate Dictionary (1993)</b></p> <p>Embed: to make something an integral part of. (SD00000006)</p>	
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	<p><b>Source: American Heritage College Dictionary (1993)</b></p> <p>Embed: to cause to be an integral part of a surrounding whole. (SD0000003)</p> <p><b>Source: Random House Unabridged Dictionary (1993)</b></p> <p>Embed: 1. to fix into a surrounding mass; 3. to incorporate or contain as an essential part or characteristic. (SD0000009)</p> <p><b>Source: Expert Testimony of Dr. Arthur G. Erdman</b></p> <p>Dr. Erdman will testify consistent with his Declaration, previously filed as Docket No. 37, hereby incorporated by reference.</p>	
comprised of a posterior cushion pad in each posterior portion	<p><b><u>Shock Doctor's Proposed Construction</u></b></p> <p>comprised of a surface in each posterior portion of the framework to cushion impacts between the teeth of the upper and lower jaw</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: U.S. Patent No. 5,339,832</b></p> <p>"Another object and advantage of the present invention is the elastomeric framework may begin</p>	<p><b><u>XO's Proposed Construction</u></b></p> <p>framework must have a thin flat mat for reducing shock that aligns with both the molars and bicuspid</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: Specification</b></p> <p>Element 80 in Figs. 2-6</p>

	<p>as an anterior impact brace on the anterior portion of the mouthguard contacting the anterior teeth and extending through the base portion of the mouthguard forming cushioning pads in the occlusal regions for the posterior teeth to absorb, attenuate and dissipate shock as heretofore not known.” (2:14-22)</p> <p>“Another object and advantage of the present invention is that the posterior cushion pads of the framework may have enlarged portions which assist in custom fitting of the lower jaw to the power position as well as further providing the advantage of absorption, attenuation and dissipation of shock.” (2:23-28)</p> <p>“Referring to FIGS. 2-6, the composite mouthguard may be generally seen. Mouthguard 60 is comprised of a thermoplastic mouthguard portion 61, which is generally horse shoe or U-shaped, with the embedded or substantially internal elastomeric framework 78 forming posterior cushion pads 80 and an anterior impact brace 90.” (4:10-16)</p>	<p>Column 2, lines 14-21</p> <p>Column 4, line 66 – column 5, line 5</p> <p>Column 5, lines 12-26</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster Dictionary</b></p> <p>Cushion – an elastic body for reducing shock</p> <p>Pad – a thin flat mat or cushion</p> <p><b>Source: Percipient Witness – Jim Landi</b></p> <p>Testifying as to his understanding, as one of ordinary skill in the art, of the technical terms used in the patentv</p>
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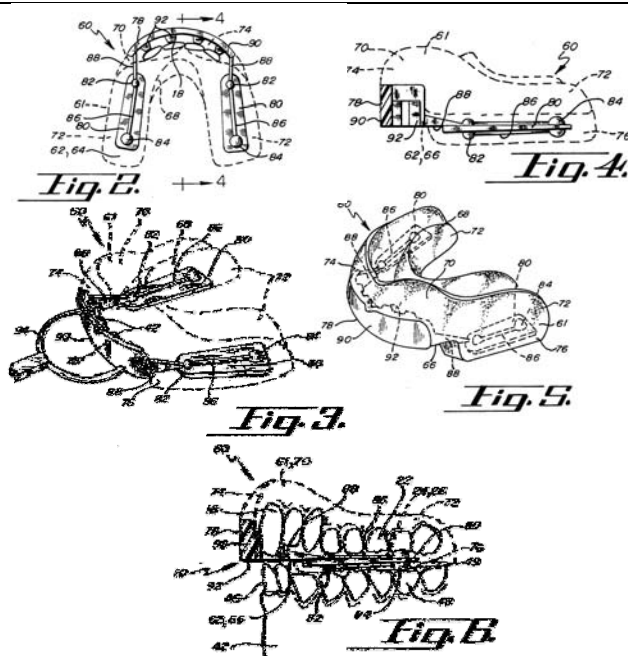
“The elastomeric framework 78 has posterior cushion pads 80 which suitably lay within the posterior portions 72 of the U-shaped base 62. Alternatively, the posterior cushion pads may be embedded within the occlusal posterior pads 76 or between the pads 76 and the U-shaped anterior base portions 62. The posterior cushion pads 80 suitably have enlarged portions 82 and 84 suitably in the bicuspid and molar regions of the teeth. The enlarged portions may take the form of spheres, columns, or knobs. The enlarged molar portions or spheres 84 are suitably positioned to fit in the area of the first adult molars as shown in FIG. 6. The bicuspid enlarged portions 82 appropriately fit on

	<p>the bicuspid teeth adjacent the canine or eyeteeth.” (4:66-5:11)</p> <p>“The posterior cushion pads 80 together with the enlarged portions 82 and 84 cause the mandible or lower jaw 42 to slide forwardly and slightly downwardly while fitting the composite mouthguard 60. Also, the condyles 50 are moved downwardly and away from the fossae or sockets 32 without the need for exotic devices and/or measurements, articulation, etc. Furthermore, the posterior cushion pads 80 with the enlarged portions 82 and 84 assure proper fitting of the composite mouthguard 50 when softened by prohibiting the user from biting too deeply into the soft EVA material of the thermoplastic mouthguard portion 61. Also, the bicuspid enlarged portions 82 assure that there is no excessive upward displacement of the anterior portions of the lower movable jaw or mandible 42.” (5:12-26)</p> <p>“Moving forwardly, a transition support portion 88 extends forwardly from the posterior cushion pads 80 and connects to the anterior impact brace 90.” (5:34-36)</p> <p>“The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof; therefore, the illustrated embodiment should be considered in all respects as illustrative and not restrictive, reference being made to the appended claims rather than to the foregoing description to indicate the scope of the invention.”</p>	
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	<p>(6:11-17)</p> <p><b>Source: Prosecution History</b></p> <p><u>“comprised of a posterior cushion pad in each posterior portion”</u> (11/1/93 Amendment at SD0000132)</p> <p>“More specifically, the framework includes posterior cushion pads in the mouthguard base with an enlarged portion in the area of the molar tooth. This is clearly not disclosed in Stark.” (11/1/83 Amendment at SD0000145)</p> <p>“The framework consists of an anterior section with anterior cushioning pads the contact the anterior teeth and the framework projects rearward to form posterior pads that are sandwiched between the upper and lower molars.” (2/22/94 Notice of Allowance at SD0000173)</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Academic Press Dictionary of Science and Technology (1992)</b></p> <p>Pad: a layer of material used to protect an object. (SD0000016)</p> <p><b>Source: The Concise Oxford Dictionary of Current English (1990)</b></p> <p>Pad: a piece of soft material used to reduce friction</p>	
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	<p>or jarring, fill out hollows, hold or absorb liquid, etc. (SD0000027)</p> <p><b>Source: McGraw-Hill Dictionary of Scientific and Technical Terms (1989)</b></p> <p>Pad: A layer of material used as a cushion or for protection. (SD0000036)</p> <p><b>Source: The Random House Dictionary of the English Language (1987)</b></p> <p>Pad: 1. a cushionlike mass of soft material used for comfort, protection, or stuffing. (SD0000049)</p> <p><b>Source: Webster's College Dictionary (1991)</b></p> <p>Pad: 1. a cushionlike mass of soft material used for comfort, protection, or stuffing. (SD0000062)</p>	
<p>at least partially extends through the labial wall to form anterior cushion pads to touch the anterior teeth of the upper jaw</p>	<p><b><u>Shock Doctor's Proposed Construction</u></b></p> <p>interrupts the labial wall resulting in surfaces that touch the anterior teeth of the upper jaw</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: U.S. Patent No. 5,339,832</b></p> <p>"Another object and advantage of the present invention is the elastomeric framework may begin as an anterior impact brace on the anterior portion</p>	<p><b><u>XO's Proposed Construction</u></b></p> <p>framework must protrude in a lateral direction through the labial wall, and those protrusions must touch the fronts of both the incisors and canines</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: Specification</b></p> <p>Element 92 in Figs. 2-6</p>

	<p>of the mouthguard contacting the anterior teeth and extending through the base portion of the mouthguard forming cushioning pads in the occlusal regions for the posterior teeth to absorb, attenuate and dissipate shock as heretofore not known.” (2:15-22)</p> <p>“Another object and advantage of the present invention is that the elastomeric framework has enlarged portions and an anterior impact brace within the thermoplastic mouthguard portion where shock forces are most likely to be exerted upon the mouthguard for resilient absorption, attenuation and dissipation of shock forces.” (2:40-46)</p> <p>“FIG. 2 is a top plan view of the composite mouthguard showing the anterior teeth contacting the anterior cushioning pads of the anterior impact brace of the elastomeric framework with the thermoplastic mouthguard portion shown in phantom outline;” (3:1-5)</p>	<p>Column 5, lines 33-50</p> <p><b>Source: Prosecution History</b></p> <p>Amendment dated Oct. 27, 1993, pages 12-13</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster Dictionary</b></p> <p>Extends – to spread or stretch forth</p> <p>Through – used as a function word to indicate movement into at one side or point and out at another and especially the opposite side of</p> <p><b>Source: Percipient Witness – Jim Landi</b></p> <p>Testifying as to his understanding, as one of ordinary skill in the art, of the technical terms used in the patent</p>
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“Moving forwardly, a transition support portion 88 extends forwardly from the posterior cushion pads 80 and connects to the anterior impact brace 90. Anterior impact brace 90 has protruding anterior cushion pads 92 which extend through the upward outer labial wall 70 to actually contact the anterior teeth 18 of the upper jaw 12 as clearly shown in FIG. 2 to advantageously absorb, attenuate and dissipate shock exerted thereat. FIGS. 4 and 6 show double phantom lines without cross sectioning in the anterior portion 74 of the thermoplastic mouthguard portion 61 to illustrate that the copolymer mouthguard portion 61 at least partially surrounds the anterior cushion pads 92 to further

	<p>embed the framework 78 in the anterior portion 74 of the mouthguard portion 61. The anterior cushion pads 92 extend rearwardly through the anterior portion 74 of the outer labial wall 70.” (5:34-50)</p> <p>“In operation, the composite mouthguard 60 may be momentarily submersed suitably into boiling water. Thereafter, the mouthguard 60 is immediately placed onto the teeth 18 and 22 of the upper jaw 12. Next, the lower jaw 42 is positioned forwardly or anteriorly in a range of 1 to 4 millimeters as the posterior teeth 48 engage the enlarged portions 82 and 84 with or without occlusal posterior pads 76. The wearer or user then applies suction between the upper jaw 12 and the mouthguard 60 while packing the mouthguard 60 with the hands along the cheeks and lips adjacent the anterior and posterior teeth 18 and 22 of the upper jaw 12.” (5:53-64)</p> <p>“The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof; therefore, the illustrated embodiment should be considered in all respects as illustrative and not restrictive, reference being made to the appended claims rather than to the foregoing description to indicate the scope of the invention.” (6:11-17)</p> <p><b>Source: Prosecution History</b></p> <p>“The specification is objected to under 35 U.S.C. § 112, first paragraph, as not providing an adequate written description of how the anterior cushion pads</p>	
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	<p>would be able to protrude to contact the front teeth. The specification and drawings, even fig. 2, are unclear as to whether the mouthguard portion's copolymer resin would surround the anterior cushion pad while in the mold and all that would be visible, after being removed from mold, is the face of the anterior cushion pads or would the resin just cover the posterior side of the anterior impact brace letting one view the face as well as the sides of the anterior cushion pads when released from the mold." (8/30/93 Office Action at SD0000124)</p> <p>"With this explanation of FIGS. 4 and 6, the anterior cushion pads 92 can clearly be seen to 'at least partially extend through' the outer labial wall 70 of the anterior portion 74 of the mouthguard portion 61. The specification supports this interpretation of FIGS. 4 and 6. On page 3, lines 26 and 27, 'the elastomer framework is embedded in the mouthguard portion.' On page 9, the third full paragraph, the 'framework 78 is initially molded or formed after which the thermoplastic mouthguard portion 61 may be injection molded therearound. On page 10, line 25, 'anterior impact brace 90 has protruding anterior cushion pads 92 which extend through the upper, outer labial wall 70 to actually contact the anterior teeth 18 of the upper jaw.'" (11/1/93 Amendment at SD0000142-43)</p> <p>"The comments above regarding FIGS. 4 and 6 with reference to the specification are also incorporated here. Application has shown that the cushion pads 92 partially extend through the</p>	
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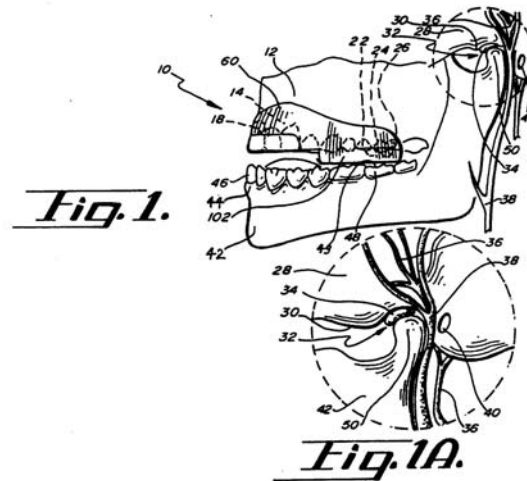


	<p>anterior portion 74 of the upper, outer labial wall 70. The copolymer resin of the mouthguard portion 61 simply need not completely surround the anterior cushion pads 92. What is important is that the face of the cushion pads 92 must be able to come into complete contact with the anterior teeth 18. Whether the sides of the anterior cushion pads 92 are completely or only partially covered by copolymer resin or mouthguard portion 61 is simply irrelevant. Original FIG. 6 and amended FIG. 4 clearly show that the backside of the anterior impact brace 90 is covered with copolymer resin or mouthguard portion 61 and at least portions of the sides of anterior cushion pads 92 are also covered by the resin or mouthguard portion 61. This arrangement embeds the framework 78 into the mouthguard portion 61 as described in the specification.” (11/1/93 Amendment at SD0000143)</p> <p>“Neither Stark nor Lake Jr. disclose or suggest with any likelihood of success that the framework forms an anterior impact brace extending rearwardly to form cushion pads in the mouthguard base extending rearwardly to form cushion pads in the mouthguard base in the posterior portions of the mouthguard as well as anterior cushion pads extending from the impact brace rearwardly to touch the anterior teeth of the upper jaw.” (11/1/93 Amendment at SD0000146)</p> <p>“The framework consists of an anterior section with anterior cushioning pads the contact the anterior</p>	
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	<p>teeth and the framework projects rearward to form posterior pads that are sandwiched between the upper and lower molars.” (2/22/94 Notice of Allowance at SD0000173)</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Academic Press Dictionary of Science and Technology (1992)</b></p> <p>Pad: a layer of material used to protect an object. (SD0000016)</p> <p><b>Source: The Concise Oxford Dictionary of Current English (1990)</b></p> <p>Extend: 2. stretch or lay out at full length; 3. reach or by or make continuous over a certain area. (SD0000023)</p> <p>Pad: a piece of soft material used to reduce friction or jarring, fill out hollows, hold or absorb liquid, etc. (SD0000027)</p> <p><b>Source: The Random House Dictionary of the English Language (1987)</b></p> <p>Extend: 2. to stretch, draw, or arrange in a given direction, or so as to reach a particular point, as a cord, wall, or line of troops; 18. to reach, as to a particular point. (SD0000045)</p> <p><b>Source: Webster’s College Dictionary (1991)</b></p>	
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	<p>Extend: 14. to reach, as to a particular point. (SD0000058)</p> <p><b>Source: Webster's New World Dictionary (1989)</b></p> <p>Extend: 1. to stretch out or draw out to a certain point, or for a certain distance or time. (SD0000068)</p>	
enlarged portions in an area of a molar tooth and a bicuspid tooth to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity	<p><b><u>Shock Doctor's Proposed Construction</u></b></p> <p>one enlarged portion to engage a molar tooth of the lower jaw and a second enlarged portion to engage a bicuspid tooth of the lower jaw to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: U.S. Patent No. 5,339,832</b></p> <p>"Such a mouthguard should absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity, permit a positioning of the lower jaw into the power position for increased endurance and muscular power, will facilitate breathing and speech, and will reduce pressure and possible concussion impact upon the cartilage of the joint, the joint itself, the arteries and the nerves in proximity of the joints." (1:54-62)</p> <p>"Another object and advantage of the present</p>	<p><b><u>XO's Proposed Construction</u></b></p> <p>portions that are thicker in cross-sectional area than the cushion pad, one aligning with a molar tooth and another aligning with a bicuspid tooth</p> <p><b><u>Intrinsic Evidence</u></b></p> <p><b>Source: Claims</b></p> <p>Claim 12</p> <p><b>Source: Specification</b></p> <p>Elements 82 and 84 in Figs. 2-6</p> <p>Column 2, lines 25-28</p> <p>Column 2, lines 40-46</p> <p>Column 5, lines 4-5</p> <p>Column 5, lines 5-11</p>

	<p>invention is that the posterior cushion pads of the framework may have enlarged portions which assist in custom fitting of the lower jaw to the power position as well as further providing the advantage of absorption, attenuation and dissipation of shock.” (2:23-28)</p> <p>“Another object and advantage of the present invention is that the elastomeric framework, which is not softened under boiling water, will permit the appropriate power positioning of the lower jaw despite the softening of the thermoplastic mouthguard portion, thereby assuring proper fitting of the composite mouthguard.” (2:34-39)</p> <p>“Another object and advantage of the present invention is that the elastomeric framework has enlarged portions and an anterior impact brace within the thermoplastic mouthguard portion where shock forces are most likely to be exerted upon the mouthguard for resilient absorption, attenuation and dissipation of shock forces.” (2:40-46)</p> <p>“To understand the structural features and benefits of the mouthguard 60 of the present invention, some anatomy will first be described. Referring to FIGS. 1 and 1A, the mouthguard user would have a mouth 10, generally comprised of a rigid upper jaw 12 and a movable lower jaw 42 which are movably connected at the temporomandibular joint (TMJ) 32 and 50.” (3:21-27)</p>	<p>Column 5, lines 27-29</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Merriam-Webster Dictionary</b></p> <p>Enlarge (Thesaurus) – to become greater in extent, volume, amount, or number; to make greater in size, amount, or number</p> <p><b>Source: Prior Art References</b></p> <p>3,411,501 (Greenberg)</p> <ul style="list-style-type: none"> <li>• Column 4, lines 45-49, 56-69, and Figs. 12-18</li> <li>• Column 5, lines 73-75</li> </ul> <p>3,485,242 (Greenberg)</p> <ul style="list-style-type: none"> <li>• Column 3, lines 21-26</li> </ul> <p>3,692,025 (Greenberg)</p> <ul style="list-style-type: none"> <li>• Column 3, lines 31-40</li> </ul> <p><b>Source: Percipient Witness – Jim Landi</b></p> <p>Testifying as to his understanding, as one of ordinary skill in the art, of the technical terms used in the patent</p>
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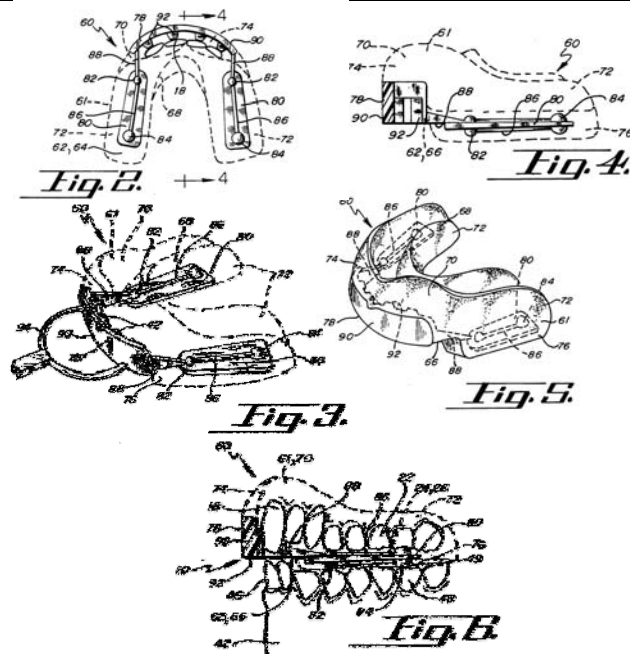


“More specifically, the rigid upper jaw 12 has gum tissue 14 within mouth 10. Gum tissue 14, as well as the bone thereunder, support anterior teeth (incisors and canines) 18 which have incisal or biting surfaces. The gum tissues 14 and the bone thereunder also support posterior teeth (molars and bicuspid) 22 which have cusps and biting surfaces 26.” (3:28-34)

“The movable jaw or mandible 42 supports a bone covered by gum tissue 44 which further supports anterior teeth (incisors and canines) 46 and posterior teeth (molars and bicuspid) 48 with occlusal surfaces 52. The condyle 50 of the lower jaw 42 forms the ball of the temporomandibular joint 32 and 50. This anatomical structure is the same for both sides of the head.” (3:45-51)

“Repeated impacts, collisions, blows or forces

	<p>exerted on the movable lower jaw 42 result in excessive wearing forces upon the condyle 50 and the cartilage or disc 34 - typically resulting in deterioration or slippage of the cartilage 34. Thereafter, the lower jaw 42 may be subject to irregular movement, loss of comfortable range of movement and clicking of the joint 32 and 50.” (3:52-58)</p> <p>“The posterior cushion pads 80 suitably have enlarged portions 82 and 84 suitably in the bicuspid and molar regions of the teeth. The enlarged portions may take the form of spheres, columns, or knobs. The enlarged molar portions or spheres 84 are suitably positioned to fit in the area of the first adult molars as shown in FIG. 6. The bicuspid enlarged portions 82 appropriately fit on the bicuspid teeth adjacent the canine or eyeteeth.” (5:3-11)</p>	
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“The posterior cushion pads 80 together with the enlarged portions 82 and 84 cause the mandible or lower jaw 42 to slide forwardly and slightly downwardly while fitting the composite mouthguard 60. Also, the condyles 50 are moved downwardly and away from the fossae or sockets 32 without the need for exotic devices and/or measurements, articulation, etc. Furthermore, the posterior cushion pads 80 with the enlarged portions 82 and 84 assure proper fitting of the composite mouthguard 50 when softened by prohibiting the user from biting too deeply into the soft EVA material of the thermoplastic mouthguard

	<p>portion 61. Also, the bicuspid enlarged portions 82 assure that there is no excessive upward displacement of the anterior portions of the lower movable jaw or mandible 42.” (5:12-26)</p> <p>“In operation, the composite mouthguard 60 may be momentarily submersed suitably into boiling water. Thereafter, the mouthguard 60 is immediately placed onto the teeth 18 and 22 of the upper jaw 12. Next, the lower jaw 42 is positioned forwardly or anteriorly in a range of 1 to 4 millimeters as the posterior teeth 48 engage the enlarged portions 82 and 84 with or without occlusal posterior pads 76.” (5:53-60)</p> <p>“The user of the composite mouthguard will have correct jaw posture for athletic participation which will assure minimal impact injury to the TMJ 32 and 50 as well as the surrounding tissues, teeth and respective jaws. The elastomeric framework 78 with its component parts will absorb, attenuate and dissipate shock forces as heretofore not known. Furthermore, the user will experience increased endurance, performance and muscular freedom due to the power positioning and posture of the TMJ joints 32 and 50.” (6:1-10)</p> <p>“The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof; therefore, the illustrated embodiment should be considered in all respects as illustrative and not restrictive, reference being made to the appended claims rather than to the foregoing</p>	
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	<p>description to indicate the scope of the invention.” (6:11-17)</p> <p>“The composite mouthguard of claim 9, wherein each posterior cushion pad has an enlarged portion above and below the cushion pad in an area of a molar tooth.” (Claim 10)</p> <p>“The composite mouthguard of claim 10, wherein each posterior cushion pad has a second enlarged portion in an area of a bicuspid tooth.” (Claim 11)</p> <p>“The composite mouthguard of claim 9, wherein each posterior cushion pad has two enlarged portions above and below the cushion pad in areas of molar and bicuspid teeth.” (Claim 12)</p> <p><b>Source: Prosecution History</b></p> <p><u>“each with an enlarged portion in an area of a molar tooth</u> to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (11/1/93 Amendment at SD0000132)</p> <p>“More specifically, the framework includes posterior cushion pads in the mouthguard base with an enlarged portion in the area of the molar tooth. This is clearly not disclosed in Stark.” (11/1/83 Amendment at SD0000145)</p> <p>“Lake, Jr. lacks in disclosing whether the inserts 8a and 8b are parallelogram or trapezoidal in shape. The examiner’s position, based on the applicant</p>	
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	<p>broadly claiming ‘an enlarge portion in the area of a molar tooth’, is that the inserts 8a and 8b are trapezoidal in shape thus having their enlarged portion in the molar tooth area. The reasoning is that the bottom surface area of the molar teeth is greater than the bottom surface area of the bicuspid teeth thus it would make sense to have the part of the insert covering the molar teeth are larger. With this interpretation the reference discloses the claimed invention. For the applicants to claim around the prior art, they would need to claim a bulbous portion above and below the cushion pad.” (12/27/93 Office Action at SD0000155)</p> <p>“each with [an] enlarged portions in an area of a molar tooth <u>and a bicuspid tooth</u> to absorb, attenuate and dissipate shock forces exerted on the mouthguard during athletic activity.” (1/18/94 Amendment at SD0000160)</p> <p><b><u>Extrinsic Evidence</u></b></p> <p><b>Source: Expert Testimony of Dr. Arthur G. Erdman</b></p> <p>Dr. Erdman will testify consistent with his Declaration, previously filed as Docket No. 37, hereby incorporated by reference.</p>	
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Dated: August 1, 2008

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